

**REMARKS**

In the Office Action, the Examiner objected to the drawings for not showing each and every feature of the claims; objected to claims 25, 73, and 74 for informalities; rejected claims 1, 7, 10, 24, 25, 29, 32, 34, 36, 37, 45, 47-49, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-80, 87, and 96 under 35 U.S.C. § 112 as being indefinite; rejected claims 7, 10, 29, 34, 37, 45, 47, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-79, 87, and 96 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,092,695 to Loeffler (“Loeffler”); rejected claims 1, 7, 10, 29, 32, 34, 36, 37, 45, 47-49, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-79, 80, 87, and 96 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of U.S. Patent No. 2,711,134 to Hughes (“Hughes”); rejected claims 7, 10, 29, 32, 34, 36, 37, 45, 47-49, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-79, 80, 87, and 96 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of U.S. Patent No. 4,334,838 to Fessler et al. (“Fessler”); rejected claims 24 and 25 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler*, *Loeffler* in view of *Hughes*; or *Loeffler* in view of *Fessler* and further in view of U.S. Patent No. 6,180,061 to Bogen et al. (“Bogen”); rejected claim 80 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of *Fessler* and further in view of *Hughes*; and rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of *Hughes*; or *Loeffler* in view of *Fessler* and further in view of U.S. Patent No. 5,232,664 to Krawzak et al. (“Krawzak”), U.S. Patent No. 4,844,868 to Rokuguwa (“Rokuguwa”), U.S. Patent No. 5,433,351 to Okuyama et al. (“Okuyama”), or U.S. Patent No. 4,846,636 to Danby et al. (“Danby”).

By this reply Applicant has amended claims 1, 7, 25, 29, 37, 45, 56, 66, 73, 74, and 96 and canceled claims 10, 34, 57, 69, 75, and 77-80 without prejudice or

disclaimer. Applicant has also added new claims 170-173. No new matter has been added by this Reply.

### **Objection to Drawings**

In the Office Action, the Examiner objected to the drawings for not showing each and every feature of the claims. Specifically, the Examiner objected to the drawings for not showing a “shipping lock,” “a self-priming element,” and a “tip-down priming element.” (Office Action at 2.) Although Applicant does not necessarily agree with these objections, Applicant has canceled the features “shipping lock,” “self-priming element,” and “tip-down priming element” from the claims. Accordingly, the objection to the drawings is now moot.

### **Claim Objections**

The Examiner objected to claims 25, 73, and 74 for informalities. Regarding claim 25, the Examiner contends that “wherein said dual clamp element connects said liquid reservoir to said metering chamber’ . . . may be interpreted as intended use.” (Office Action at 3.) Applicant disagrees. The recitation that “said dual clamp element connects said liquid reservoir to said metering chamber” is not intended use, but rather a limitation indicating the physical arrangement of structural components. Accordingly, Applicant submits that the original language is proper. Additionally, Applicant is unable to fully understand the Office Action’s suggested revision since the revised sentence does not include a verb, (i.e., “connects”), but instead includes a past participle (i.e., “connected”). If the Examiner disagrees and maintains this objection, Applicant requests further clarification.

Regarding claims 73 and 74, although Applicant does not necessarily agree, Applicant has amended the claims as suggested by the Examiner. Accordingly, the objection to these claims is moot.

Accordingly, for at least the aforementioned reasons, the Applicant requests that the Examiner withdraw the objections to claims 25, 73 and 74.

**Section 112 Rejection**

The Examiner rejected claims 1, 7, 10, 24, 25, 29, 32, 34, 36, 37, 45, 47-49, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-80, 87, and 96 under 35 U.S.C. § 112, second paragraph, as being indefinite.

The Examiner rejected claims 1 and 7 for reciting “a metering chamber” after a previous recitation of “a metering chamber.” (See Office Action at 3.) Applicant has revised the second recitation of “metering chamber” to read “said metering chamber.” Accordingly, the rejection is now moot.

Regarding claim 29, the Office Action contended that “further comprising an automated biological staining device” was an intended use that rendered the claim indefinite. (Office Action at 4.) Although Applicant does not necessarily agree, Applicant has amended claim 29 to recite “wherein the liquid reservoir and metering chamber are attached to an automated system.” Accordingly, the rejection of claim 29 should be withdrawn.

The Examiner rejected claim 34 for allegedly being indefinite. Applicant does not necessarily agree with the Examiner, however, Applicant has canceled the claim rendering the rejection moot.

Claim 37 was rejected for allegedly not further limiting the subject matter of claim

7. Applicant does not necessarily agree, but has amended claim 37 to clarify the claim.

Applicant requests that the Examiner withdraw the rejection in view of the amendment.

Claims 56 and 57 were rejected for allegedly being indefinite. Applicant has amended claim 56 to clarify the claim and has canceled claim 57. Accordingly, the rejection of claim 56 should be withdrawn and the rejection of claim 57 is moot.

The Examiner also rejected claims 69, 75, 77, and 78 for allegedly being indefinite. Applicant does not necessarily agree with the Examiner, however, Applicant has canceled the claims rendering the rejection of these claims moot.

Regarding claim 96, the Examiner contended that “recitations of active steps for opening/closing valves renders [sic] said claim indefinite.” (Office Action at 5.) Applicant does not necessarily agree, but has amended claim 96 to clarify the claim. Accordingly, Applicant requests that the Examiner withdraw the rejection.

### **Section 102 Rejection**

The Examiner rejected claims 7, 10, 29, 34, 37, 45, 47, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-79, 87, and 96 under 35 U.S.C. § 102(b) as being anticipated by *Loeffler*. Applicant respectfully traverses this rejection.

In order to properly anticipate Applicant’s claims under § 102, a single prior art reference must disclose each and every element of the claim at issue, either expressly or under principles of inherency. See M.P.E.P. § 2131. *Loeffler* does not disclose each and every element of the claims as amended.

*Loeffler* discloses a metering chamber 13, a compression member 12, and back member 6. (See e.g., Figs. 1A and 1C and col. 4, line 55 - col. 5, line 5.)

*Loeffler* discloses that

[t]he metering chamber remains exposed for compression by [the] external compression member once the cartridge has been placed on a suitable dispenser platform so that liquid can be readily dispensed through the outlet check valve.

(Col. 3, lines 36-40.) In other words, *Loeffler* discloses a metering chamber 13 that is composed of a flexible/deformable material which is compressed by compression member 12 and back member 6. (See e.g., Figs 1A and 1C and col. 4, line 55 - col. 5, line 5.) In the rejection under 35 USC 102, the Examiner noted that in the case of *Loeffler* the uncompression element "is the resiliency of the chamber wall." (Office Action at 6.) Therefore, the volume of liquid drawn into or dispensed from the chamber is dependent on the resiliency of the chamber wall at any given point in time. The metering chamber 13 of *Loeffler* is a *compressible* elastomeric housing (col. 2 lines 23-34) rather than a metering chamber with a rigid wall and a conforming diaphragm. Accordingly, *Loeffler* does not disclose a "flexible diaphragm configured to conform to a rigid wall of said metering chamber" (emphasis added), as recited in independent claims 1 and 7.

*Loeffler* also does not disclose each and every element of independent claim 96. Specifically, *Loeffler* does not disclose "displacing said uncompressed diaphragm to a compressed position conforming said diaphragm against a rigid wall of said metering chamber."

Accordingly, *Loeffler* does not disclose each and every element of independent claims 1, 7, and 96. Because *Loeffler* does not disclose each and every element of the claims, the Section 102 rejection should be withdrawn. Additionally, the Section 102

rejection of the rejected dependent claims should also be withdrawn at least due to their dependence on one of claims 1, 7, and 96 and due to their additional recitations of patentable subject matter.

**Section 103 Rejections**

The Office Action rejected claims 1, 7, 10, 29, 32, 34, 36, 37, 45, 47-49, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-79, 80, 87, and 96 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of *Hughes*. Applicant respectfully traverses the rejection.

The Office Action contends that *Loeffler* discloses a metering chamber. (Office Action at 7.) The Examiner further contends that *Loeffler* discloses a diaphragm (i.e., “[t]he housing of the metering chamber is compressible/decompressible and acts as a diaphragm”). (*Id.*) As discussed above, *Loeffler* does not disclose or suggest a “flexible diaphragm configured to conform to a rigid wall of said metering chamber,” as recited in independent claims 1 and 7 or “displacing said uncompressed diaphragm to a compressed position conforming said diaphragm against a rigid wall of said metering chamber,” as recited in independent claim 96. Accordingly the volume of liquid dispensed from the compressible metering chamber of *Loeffler* depends on the resiliency of the compressible chamber wall and upon the compression force applied by the displacement of compression member 12. Further, the volume of liquid drawn into the compressible metering chamber also depends on the resiliency of the compressible chamber wall. Variations in resiliency of the compressible chamber over time or temperature and variations in the displacement of the compression member will result in variations of the volume dispensed.

Accordingly, the metering chamber of *Loeffler* is a flexible metering chamber that does not provide the substantially invariable fixed dispensing volume of a metering chamber that includes a “flexible diaphragm configured to conform to a *rigid wall* of said metering chamber,” (emphasis added) as recited in independent claims 1 and 7 or “displacing said uncompressed diaphragm to a compressed position conforming said diaphragm against a rigid wall of said metering chamber,” as recited in independent claim 96.

The Examiner relies on *Hughes* for its alleged disclosure of, for example, an “internal mechanical stop (housing 11); a spring as an uncompression element (45); a plunger element (19, 20, 32, 31, and 42); and inlet and outlet valves (62 and 72).” (Office Action at 8.) *Hughes*, however, does not remedy the deficiencies of *Loeffler* with respect to amended claims 1, 7, and 96 discussed above.

Accordingly, the Section 103 rejection over *Loeffler* and *Hughes* should be withdrawn. Additionally, the Section 103 rejection of the rejected dependent claims should also be withdrawn at least due to their dependence on one of claims 1, 7, and 96 and due to their additional recitations of patentable subject matter.

Claims 7, 10, 29, 32, 34, 36, 37, 45, 47-49, 52, 56, 57, 59, 60, 66, 69, 73-75, 77-79, 80, 87, and 96 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of *Fessler*.

As above, the Office Action contends that *Loeffler* discloses a metering chamber and a diaphragm. (Office Action at 9.) However, similar to the discussion above, *Loeffler* does not disclose or suggest a “flexible diaphragm configured to conform to a rigid wall of said metering chamber,” as recited in independent claims 1 and 7 or

"displacing said uncompressed diaphragm to a compressed position conforming said diaphragm against a rigid wall of said metering chamber," as recited in independent claim 96.

The Examiner relies on *Fessler* for its alleged disclosure of, for example, an "internal mechanical stop (housing 11 and ribs 25); a spring as an uncompression element (18); a plunger element (19, 20, 32, 31, and 42); and inlet and outlet valves (14 and 15) (Office Action at 8.) *Fessler*, however, does not remedy the deficiencies of *Loeffler* with respect to amended claims 7 and 96 discussed above.

Accordingly, the Section 103 rejection over *Loeffler* and *Fessler* should be withdrawn. Additionally, the Section 103 rejections of the dependent claims should also be withdrawn at least due to their dependence on one of claims 7 and 96 and due to their additional recitations of patentable subject matter.

The Office Action rejected claims 24 and 25 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler*; *Loeffler* in view of *Hughes*; or *Loeffler* in view of *Fessler* and further in view of *Bogen*.

The Examiner relies on *Bogen* for its alleged disclosure of, for example, "a dual clamp." (Office Action at 12.) *Bogen*, however, does not remedy the deficiencies of *Loeffler* with respect to amended claim 7 discussed above. As also noted above, *Fessler* and *Hughes* also do not remedy the deficiencies of *Loeffler*. Accordingly, the Section 103 rejection of claims 24 and 25 over *Loeffler*; *Loeffler* in view of *Hughes*; or *Loeffler* in view of *Fessler* and further in view of *Bogen* should be withdrawn at least due to the claims' dependence on independent claim 7 and due to their additional recitations of patentable subject matter.

The Office Action rejected claim 80 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of *Fessler* and further in view of *Hughes*. As previously noted, *Fessler* and *Hughes* do not remedy the deficiencies of *Loeffler* with respect to amended claim 7 discussed above. Accordingly, the Section 103 rejection of claim 80 should be withdrawn at least due to its dependence on independent claim 7 and due to its additional recitations of patentable subject matter.

Finally, the Office Action rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over *Loeffler* in view of *Hughes*; or *Loeffler* in view of *Fessler* and further in view of *Krawzak*, *Rokuguwa*, *Okuyama*, or *Danby*.

The Examiner relies on *Krawzak*, *Rokuguwa*, *Okuyama*, or *Danby* for their alleged disclosure of, for example, “a liquid flow deflection element.” (Office Action at 13.) *Krawzak*, *Rokuguwa*, *Okuyama*, and *Danby*, like *Hughes*, *Loeffler*, and *Fessler*, do not remedy the previously discussed deficiencies of *Loeffler* with respect to amended claim 1. Accordingly, the Section 103 rejection of the claim 1 should be withdrawn and the claim allowed.

**New Claims**

New Claims 170-173 should also be allowed due at least to their dependence from allowable claims 1 and 7 and due to their additional recitations of patentable subject matter.

**Conclusion**

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: October 28, 2009

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